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Index to Issues 21–25

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HOW TO USE THIS DOCUMENT

The first section of this document provides bibliographic citations and key words for all abstracts published in issues 21-25 of the USSR Space Life Sciences Digest. Abstracts are grouped according to the topic area categories under which they were originally included and within categories by issue number. Issue numbers are provided as headings and, in addition, the first number in parentheses after abstract number refers to appropriate Digest issue. As always, topic area categories are presented in alphabetical order.

The second section of this document, starting on page 78, is a key word index. Numbers following each entry refer to page numbers in the first section of the present document. Within the key word list, topic area names are highlighted in bold, as are the pages for the primary topic area listing. Numbers not in bold following topic area names refer the reader to relevant abstracts originally included under other category names.

ISSUE 21:

PAPER:

P969(21/89) Chernyayev AL, Muratov NF.
Serum myoglobin in human blood under extreme conditions.
Fiziologiya cheloveka.
14(5): 871-873; 1988.
(14 references; 6 in English)
Authors' affiliation: Institute of Human Morphology, U.S.S.R. Academy of Medicine.

Hematology, Musculoskeletal System, Myoglobin
Humans
Adaptation, Cold, Hypoxia, Psychology, Stress, Far North

BOOK REVIEW:

BR15(21/89)* Grimak LP, Zorile VI.
Review of: Furduy FI.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 93-94; 1988.
Fiziologolicheskiye mekhanizmy stressa i adaptatsii pri ostrom deystvii stress-faktorov
Physiological mechanisms of stress and adaptation in acute exposure to stress factors.
Kishinev: Shtiints; 1986; 240 pages.

KEY WORDS: Adaptation, Psychology, Stress, Biological Rhythms, Endocrinology, Thyroid, Corticosterone, Developmental Biology

ISSUE 22

PAPERS:

P1028(22/89)* Krivoshchekov SG, Neshumova TV, Razumenko AA, Tataurov YuA.
Energy metabolism and physical work efficiency in humans adapting to high altitude conditions.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(1): 62-66; 1989.
[6 references; 1 in English]

Metabolism, Musculoskeletal System, Work Efficiency, Exercise, Cardiovascular and Respiratory Systems, Endocrinology, Enzymology
Humans, Males, Athletes
Adaptation, High Altitude

P1033(22/89)* Aliyev MA, Bekbolotova AK, Lemeshenko VA.
Positive and negative effects of antioxidants on tolerance for hypoxia and thrombocyte aggregation as a function of duration of adaptation to high altitude conditions.

Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(1): 79-81; 1989.
[1 reference; none in English]

Hematology, Thrombocyte Aggregation, Hypoxia, Tolerance
Rats, Male
Adaptation, High Altitude, Pharmacological Countermeasures, Antioxidants

ISSUE 23

P1086(23/89) Simonov PV.
Issues in ecological physiology
Text of paper presented at the General Meeting of the Physiology Division of the USSR Academy of Sciences, December, 1988.
In: Uspekhi Fiziologicheskikh Nauk.
20(2): 113-115; 1989.
[No references]

KEY WORDS: Adaptation, Biospherics, Ecological Physiology, Space Medicine, Habitability and Environmental Effect, Extreme Conditions

ISSUE 24:

BOOK REVIEW:

BR17(24/89) Agadzhanyan NA, Gnevushev VV, Katkov AYu.
Адаптация к гипоксии и биоэкономика внешнего дыхания.
Adaptatsiya k gipoksii i bioekonomika vneshnego dykhaniya.
[***Adaptation to hypoxia and the bioeconomics of external respiration.***]
Moscow: Izd-vo Universiteta Druzhba Narodov: 1987; 186 pages.
Reviewed in: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(3): 93-94; 1989.
Reviewer: I. I. Lanovneko

KEY WORDS: Adaptation, Hypoxia, Cardiovascular and Respiratory Systems, External Respiration, Voluntary Control

ISSUE 23

PAPERS:

P1059(23/89)* Ponomarenko VA, Lapa VV.
Using information to control pilot reliability under extreme performance conditions.
Kosmicheskaya Biologiya i Aviaskosmicheskaya Meditsina.
23(2): 16-21; 1989.
[13 references; none in English]

Aviation Medicine, Human Performance, Psychology
Humans, Pilots
Psychology, Information, Perception, Flight Representation

ISSUE 24:

PAPERS:

P1095(24/89)* Lapa VV.
Information interactions within a "man-flight vehicle" system as a problem in aviation medicine.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(3): 28-32; 1989.
[No references]

Aviation Medicine, Human Performance, Information Processing
Humans, Pilots
Man-Machine System, Flight Vehicles

P1118(24/89)* Dlusskaya IG, Kiselev RK.
Certain applied aspects of biochemical research in aviation medicine.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(3): 15-21; 1989.
[76 references; 43 in English]

Aviation Medicine, Biochemical Parameters, Endocrinology, Metabolism
Humans, Pilots
Psychology, Stress; Human Performance, Flight Performance,

ISSUE 22

PAPER:

P1021(22/89)* Dobriyan VV, Shprit MB, Yeroshenko VSh, Abdashimov KA.
Circadian rhythms of blood acetyl cholinesterase in response to hypokinesia and administration of organic phosphates.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(1): 31-35; 1989.
[17 references; 7 in English]

Biological Rhythms, Circadian Rhythms; Hematology, Blood Acetyl Cholinesterase
Rats, Male
Hypokinesia, Organic Phosphates

MONOGRAPH:

M144(22/89) Zidermane AA (editor) [Zidermane]
Nekotoryye voprosy khronobiologii i khronomeditsiny: Obzor literatury
Некоторые вопросы хронобиологии и хрономедицины: Обзор литературы
Some issues in chronobiology and chronomedicine: A review of the literature.
Riga: Zinatne; 1988.
[214 pages; 997 references; 5 tables; 5 figures]

KEY WORDS: Biological Rhythms, Chronopathology, Chronopharmacology, Drugs,Endocrinology, Biochemistry, Cardiovascular and Respiratory Systems, Neurophysiology

ISSUE 22:

PAPER:

P1024(22/89)* Levina RV, Smirnov RV, Olimpiyenko TS.
The effects of a hypogeomagnetic field on warm-blooded animals.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(1):145-47:1989.
[10 references; 3 in English]

Biological Effects, Radiobiology, Cardiovascular and Respiratory Systems, Physical Work Capacity, Psychology, Behavioral Measures, Learning
Rats, Males
Biospherics, Geomagnetic Field, Hypoexposure

ISSUE 21

PAPER:

P961(21/89)* Genin AM, Lakota NG, Chikov LI, Shashkov VS.
A new variant for modeling the effects of weightlessness on humans.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 80-85; 1988.
[24 references; 12 in English]

Body Fluids, Fluid-Electrolyte Metabolism; Neurophysiology, Vestibular Tolerance; Endocrinology; Human Performance; Cardiovascular and Respiratory Systems
Humans
Immersion, Dry, Suit, Horizontal and Vertical Positions

ISSUE 22

PAPER:

P994(22/89) Bukayev YuN.
Physical exercise and renal function.
Teoriya i praktika fizicheskoy kul'tury.
1988(12): 36-37.
[8 references; 5 in English]

Body Fluids, Renal Function, Cardiovascular and Respiratory Systems, Renal Hemodynamics
Humans, Athletes
Physical Exercise, Long-Term Effects

ISSUE 23

PAPER:

P1089(23/89) Doroshenko NM, Korpachev VV.
The role of the spleen in regulation of plasma calcium under normal conditions and during stress.
Fiziologicheskiy Zhurnal.
35(1): 17-21; 1989.
[15 references; 2 in English]
Authors' Affiliation: Kiev Institute of Endocrinology and Metabolism; Ukrainian Ministry of Health

Body Fluids; Calcium Homeostasis
Rats; Chinchilla
Spleen; Splenectomy; Splenin; Stress; Exercise

ISSUE 25:

PAPER:

P1136(25/89)* Vartbaronov RA, Glod GD, Popov IG, Uglova NN, Sarycheva NN, Rolik IS.
Blood electrolyte balance in dogs repeatedly exposed to +G_z acceleration
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(4): 43-46; 1989.
[23 references; 7 in English]

Body Fluids, Blood Electrolyte Balance
Dogs
Acceleration, +G_z

ISSUE 22

PAPERS:

P1081(23/89)* Antipov VV, Vasin Mv, Gaydmakin AN.
Assessment of effects of a single exposure to ammonia on photosynthesis of lettuce plants in an airtight phytotron.
Kosmicheskaya Biologiya i Aviaskosmicheskaya Meditsina.
23(2): 67-70; 1989.
[16 references; 7 in English]

Botany, Photosynthesis
Lettuce
Habitability and Environmental Effects, Air Pollutants, Ammonia, Hermetically Sealed Spaces

P1072(23/89)* Brill' OD, Borzunov VB, Vikhrov AI, Vorob'yeva NG, Ivanov LI, Kovalev YeYe, Yanushkevich VA.
The combined effects of b-radiation and shock waves on lettuce (Lactuca sativa L.) seeds.
Kosmicheskaya Biologiya i Aviaskosmicheskaya Meditsina.
23(2): 70-74; 1989.
[17 references; 6 in English]

Botany, Gemination Rate, Anomalous Development
Lettuce; Seeds
Radiobiology, Heavy Ions; Shock Waves; b-Irradiation

ISSUE 25:

PAPERS:

P1154 (25/89) Laurinavichyus RS, Yaroshyus AV, Rupaynen OYu.
Propspects for use of higher plants in life support systems.
In: Malkin VB, Kosmolinskiy FP, Kuznets Yel (editors).
Chelovek i Kosmos: Idei K.E. Tsiolkovskogo i ikh razvitiye v sovremennoy biomeditsine.Trudy XXII Chtenij, posvyashchennykh razrabotke nauchnogo naslediya i razvitiyu idej K.E. Tsiolkovskogo (Kaluga, 15-18 sentyabrya 1987)
Helovek i Kosmos Idei K.~. Ciolkovskogo i ix Razvitie v sovremennoy biomedicine.Trudy XXII Чтений; посвященных разработке научного наследия и развитию идей К.Э. Циолковского (Калуга; 15-18 сентября1987)
Man and space: The Ideas of K.E. Tsiolkovskiy and their development in modern biomedicine. Works from the XXII lecture series devoted to development of the scientific heritage and development of the ideas of K.E. Tsiolkovskiy (Kaluga, 15-18 September, 1987)
Moscow: Soviet Academy of Sciences; 1988.
[[7 references; 1 in English]
Pages 55-60.

Botany, Development, Growth, Viability
Higher Plants, Arabidopsis, Seeds
Space Flight, Salyut-7, Life Support Systems

P1155(25/89) Poluyan YeS, Tikhomirov AA, Sid'ko FYa.
The role of infrared radiation in increasing the productivity of plants.
In: Malkin VB, Kosmolinskiy FP, Kuznets Yel (editors).
Chelovek i Kosmos: Idei K.E. Tsiolkovskogo i ikh razvitiye v sovremennoy biomeditsine.Trudy XXII Chtenij, posvyashchennykh razrabotke nauchnogo naslediya i razvitiyu idej K.E. Tsiolkovskogo (Kaluga, 15-18 sentyabrya 1987)
Helovek i Kosmos Idei K.~. Ciolkovskogo i ix Razvitie v sovremennoy biomedicine.Trudy XXII Чтений; посвященных разработке научного наследия и развитию идей К.Э. Циолковскогю (Калуга; 15-18 сентября1987)
Man and space: The Ideas of K.E. Tsiolkovskiy and their development in modern biomedicine. Works from the XXII lecture series devoted to development of the scientific heritage and development of the ideas of K.E. Tsiolkovskiy (Kaluga, 15-18 September, 1987)
Moscow: Soviet Academy of Sciences; 1988.
[5 references; none in English]
Pages 61-64.

Botany, Productivity, Life Support Systems
Higher Plants, Radishes, Cucumber
Radiobiology, Infrared Radiation, Photosynthetically Active Radiation

ISSUE 21

PAPERS:

P945(21/89)* Voloshin VG, Bykova Yul, Kuznetsov VG, Lapshina NA.
The physiological effects of acceleration on aerobatic pilots performing aerobatic maneuvers.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 14-17; 1988.
[7 references; none in English]

Cardiovascular and Respiratory Systems, Cerebral Blood Supply
Humans, Pilots
Aerobatic Maneuvers, Acceleration, + and - G_Z

P950(21/89)* Krotov VP, Sandler G. Magedov VS, Heinz J, Badakva AM, Nazin AN (U.S.S.R, U.S.A).
Hemodynamics in monkeys during early adaptation to microgravity,
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 33-39; 1988.
[10 references; none in English]

Cardiovascular and Respiratory Systems, Hemodynamics
Monkeys, Individual Differences
Space Flight, COSMOS-1514, -1667

P952(21/89)* Vorob'yev VYe, Kovachevich IV, Goncharov IB, Vinnitskiy LI, Yegorova IA, Kal'yanova VN.
Changes in regional pulmonary hemodynamics and level of vasoactive substances in humans exposed to hypokinesia with head-down tilt.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 42-46; 1988.
[13 references; none in English]

Cardiovascular and Respiratory Systems, Pulmonary Hemodynamics, Vascular Tonus; Enzymology, Renin, Angiotensin, Kinin-Kallikrein
Humans, Males
Hypokinesia with Head-down Tilt

P956(21/89)* Artemyan NA,. Barinyan SB, Oganesyan SS, Shperling ID.
Ultrastructural analysis of atrial cardiomyocytes in rats exposed to acceleration of +5G_Z.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 60-64; 1988.
[20 references; 7 in English]

Cardiovascular and Respiratory Systems, Atrial Cardiomyocytes
Rats
Acceleration, +5G_Z

P957(21/89)* Lobanok LM, Kiriyenko AYe.
Age differences in adrenergic regulation of the contractile function of the heart under conditions of hypoxia.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 64-68; 1988.
[12 references; 5 in English]

Cardiovascular and Respiratory System, Contractile Function; Endocrinology, Adrenergic Regulation
Rats, Age Differences
Hypoxia

P962 (21/89)* Palets BL, Popov AA, Tikhonov MA, Kondakov AV, Palets LD.
Calculating the effectiveness of an indirect technique for assessing tolerance of $+G_z$ acceleration using a simulation of circulation.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 85-87; 1988.
[7 references; 3 in English]

Cardiovascular and Respiratory Systems, Circulation
Humans
Acceleration Tolerance, $+G_z$, LBNP, Mathematical Modelling,

P964(21/89)* Andriyako LYa, Bubeyev VA, Degtyarev VA, Kaplan MA, Remizov Yul, Gorin VV,
Reactions of the vascular regions of visceral organs to lower body negative pressure.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 90-91; 1988.
[7 references; 2 in English]

Cardiovascular and Respiratory Systems, Vascular Regions, Visceral Organs; Body Fluids, Fluid Redistribution
Humans, Males
Lower Body Negative Pressure

ISSUE 22

PAPERS:

P982(22/89)* Yegorov AD. Bayvskiy RM, Itesekhovskiy OG, Fedorov BM, Turchaninova VF, Alferova IV, Lyamin VR, Turbasov VD, Polyakova AP, Domracheva MV, Golubchikova ZA, Funtova II, Tazetdinov IG, Savelyeva VG.
Preliminary results of investigation of the cardiovascular system in members of the second prime crew on space station Mir.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(6): 51-58; 1988.
(14 references; none in English)

Cardiovascular and Respiratory Systems
Humans, Cosmonauts, Prime Crew
Space Flight, Mir, Long-Term, Provocative Tests, Exercise, LBNP

ISSUE 23

PAPERS:

P1057(23/89)* Barer AS, Breslav IS, Isayev GG, Sokol YaA.
The effects of increased respiratory resistance on human work capacity
Kosmicheskaya Biologiya i Aviaskosmicheskaya Meditsina.
23(2): 4-11; 1989.
[62 references; 36 in English]

Human Performance, Work Capacity
Humans
Cardiovascular and Respiratory Systems, Increased Respiratory Resistance

P1081(23/89) Kan YeL, Avetikyan ShT, Kan GS.
Reactions of the cardiovascular system of air traffic controllers to simulated job conditions.
Kosmicheskaya Biologiya i Aviaskosmicheskaya Meditsina.
23(2): 95 ; 1989.
[18 references]
Translation of abstract on file with the All-Union Institute of Scientific and Technical Information and the All-Union Scientific and Research Institute of Medical Information

Cardiovascular System, Blood Pressure
Humans, Air Traffic Controllers
Human Performance, Simulated Job Conditions

P1064(23/89)*Buzulina VP, Machinskiy GV, Nosova YeA, Stepantsov VI.
The effects of 30 days of hypokinesia on certain physiological and biochemical parameters during maximal exercise.
Kosmicheskaya Biologiya i Aviaskosmicheskaya Meditsina.
23(2): 40-44; 1989.
[11 references; 6 in English]

Cardiovascular and Respiratory Systems, Human Performance, Aerobic Work Capacity, Metabolism, Lactate, Pyruvate
Humans, Males
Hypokinesia with Head-Down Tilt, Exercise

P1074(23/89)* Sinopal'nikov VI, Yegorova OV, Makarenkova IN.
Use of 24-hour EKG monitoring to diagnose cardiac arrhythmias in flight crews.
Kosmicheskaya Biologiya i Aviaskosmicheskaya Meditsina.
23(2): 80-82; 1989.
[17 references; 6 in English]

Cardiovascular and Respiratory Systems, Cardiac Arrhythmia, EKG, 24-Hour Monitoring
Humans, Flight Crew
Aviation Medicine, Diagnosis

P1088(23/*89)Korkushko OV, Shatilo VB.
Orthostatic response of circulation and autonomic regulation in healthy humans varying in age.
Fiziologicheskiy Zhurnal.
35(1): 3-8; 1989.
[18 references; 8 in English]

Cardiovascular and Respiratory Systems, Circulation; Neurophysiology, Autonomic Regulation
Humans, Age Differences
Orthostatic Response

MONOGRAPH:

M146(23/89) Val'dman AV. Almazov VA, Tyrlin VA.
Барорецепторные РефлексыЬ Барорецепторная Регуляция Кровообращения
Baroretseptornyye Refleksy: Baroretseptornaya Regulyatsiya Krovoobrashcheniya
[Baroreceptor Reflexes: Baroreceptor Regulation of Circulation;
Leningrad: Nauka: 1988.
[143 pages; 28 illustrations; 2 tables; 384 references]

Key Words: Cardiovascular and Respiratory Systems, Circulation; Neurophysiology, Baroreceptor Reflexes; Psychology, Stress, Exercise

ISSUE 24:

PAPERS:

P1097(24/89) Silenko OV.
The reactions of the cardiovascular system to static loading when body position is changed.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(3): 34-38; 1989.
[17 references; 8 in English]

Cardiovascular and Respiratory Systems; Cardiovascular Response
Humans, Males
Static Loading, Body Position, Upright, Head-Down

P1100(24/89) Gansburgskiy AN, Potapov PP, Altukhova VV, Degtyareva MA. ***Morphometric analysis of the aortal endothelium and serum lipoproteins in rats during the period of readaptation after 15 days of hypokinesia.***
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(3): 46-49; 1989.
[13 references; 1 in English]
Cardiovascular and Respiratory Systems, Morphology, Aortal Endothelium, Metabolism, Lipoproteins
Rats
Hypokinesia

P1107(24/89) Baranov BVS, Yakhontov BO.
Recording of intrathoracic pressure in animal experiments.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(3): 71-73; 1989.
[6 references; 1 in English]

Cardiovascular and Respiratory Systems, Intrathoracic Pressure
Animals, Small
Equipment and Instrumentation, Tensometric Sensors, Implanted

P1119(24/89)* Dronenko SV.
Orthostatic tolerance of athletes in different sports and changes in it in response to hypogravity.
Voyenno-Meditsinskiy Zhurnal.
1989(5): 62.
[No references]

Cardiovascular and Respiratory Systems, Orthostatic Tolerance
Humans, Athletes, Nonathletes
Hypogravity, Immersion

P1110(24/89) Modin AYu.
Analysis of the information provided by amplitudinal and temporal characteristics of the early diastolic complex of a differential thoracic impedance plethysmogram
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(3): 79-80 1989.
[4 references; 1 in English]

Cardiovascular and Respiratory System, Early Diastolic Complex; Impedance Plethysmography, Thorax
Humans, Males
Tilt Tests, Immersion,

ISSUE 25:

PAPERS:

P1156(25/89)* Korkushko OV, Shatilo VB.
Characteristics of the transitional process of cardiac rhythm in response to a stand test in middle-aged and elderly subjects.
Fiziologiya Cheloveka.
15(4): 29-34; 1989.
[20 references; 3 in English]
Authors' Affiliation: Institute of Gerontology, USSR Academy of Medicine, Kiev

Cardiovascular and Respiratory Systems, Cardiac Rhythm
Humans, Age Differences
Stand Test, Physical Exercise; Neurophysiology, Sympathetic, Parasympathetic

P1157(25/80) Buzulina VP.
The effect of body position on endurance of physical exercise after long-term hypokinesia.
Fiziologiya Cheloveka.
15(5): 123-126; 1989.
[16 references; 6 in English]

Cardiovascular and Respiratory Systems, Endurance, Exercise
Humans, Males
Hypokinesia With Head-Down Tilt, Long-Term; Body Position

P1162(25/89) Serebrovskaya TV, Ivashkevich AA, Maydikov YuL.
The association between reactivity of the respiratory system, mental and physical work capacity and properties of metabolism in humans after a year's exposure to high altitudes.
Fiziologicheskiy Zhurnal.
35(4): 61-69; 1989.
[34 references; 11 in English]
Authors' affiliation: A.A. Bogomolets Institute of Physiology, Ukrainian Academy of Sciences, Kiev

Cardiovascular and Respiratory Systems, Metabolism, Human Performance, Work Capacity, Physical, Mental
Humans, Males, Individual Differences
Adaptation, High Altitudes

P1163(25/89) Kolchinskaya AZ, Beloshitskiy PV, Monogarov VD, Pivnutel' RV, Radziyevskiy PA, Krasyuk AN, Ivashkevich AA, Borisov AN.
Physical work capacity of alpinists under conditions of extremely low pO_2 in inspired air.
Fiziologicheskiy Zhurnal.
35(4): 68- 74 ; 1989.
[25 references; 7 in English]
Authors' affiliations: Kiev Institute of Physical Culture

Cardiovascular and Respiratory System, Physical Work Capacity
Humans, Males, Athletes, Alpinists
Hypoxia, Extremely High Altitudes, Exercise

ISSUE 21

PAPERS:

P972(21/89)Serova LV, Denisova LA, Chel'naya.
Experimental conditions on the COSMOS-1514 biosatellite.
In: M143(21/89) Gazenko O.G. (editor)Ontogenez mlekopitayushchikh v nevesomosti
[Ontogeny of Mammals in Weightlessness]
Moscow: Nauka; 1988. Pages 37-38.

Developmental Biology, Reproductive Biology, Equipment and Instrumentation
Rats, Female
Space Flight, COSMOS-1514

P974(21/89) Serova LV(U.S.S.R.), Batsek A(Czechoslovakia), Denisova LA, Lavrova YeA, Makeyeva VF, Natochin YuV, Chel'naya NA, Shakhmatova Yel (U.S.S.R.) .
The state of the neonates.
In: M143(21/89) Gazenko O.G. (editor)Ontogenez mlekopitayushchikh v nevesomosti
[Ontogeny of Mammals in Weightlessness]
Moscow: Nauka; 1988; pages 74-79.

Developmental Biology, General State, Reproductive Biology, Birth Process, Musculoskeletal System, Bones, Body Fluids, Hematology
Rats, Neonates
Space Flight, COSMOS-1514

P976(21/89) Serova LV (USSR.), Alberts J (USA.), Anasenko ZI (USSR.), Keefe D (USA.).
Growth and development of neonate rats in their first month of life.
In: M143(21/89) Gazenko O.G. (editor)Ontogenez mlekopitayushchikh v nevesomosti *[Ontogeny of Mammals in Weightlessness]*
Moscow: Nauka; 1988; pages 82-88.

Developmental Biology, Early Postnatal Growth and Development; Neurophysiology, Musculoskeletal System; Perception, Sensory Physiology
Rats
Space Flight, COSMOS-1514

MONOGRAPH:

M143(21/89) Gazenko O.G. (editor).
Ontogenez mlekopitayushchikh v nevesomosti
Ontogeny of Mammals in Weightlessness
Moscow: Nauka; 1988.
[180 pages; 50 Figures; 46 tables; 410 references; 190 English]

Key Words: Developmental Biology, Reproductive System, Space Flight, COSMOS-1514, Equipment and Instrumentation, Hypergravity, Pregnancy, Endocrinology, Sympathetic-Adrenal System, Thyroid, Hematology, Hemopoiesis, Body Fluids, Metabolism, Lipids, Nucleic Acids, Enzymology, Cardiovascular and Respiratory System, Myocardium, Musculoskeletal System, Collagen, Bone Tissue, Cartilage, Skeletal Muscles, Pregnant Females, Ovaries, Psychology, Behavior, Neonates, Neurophysiology, Brain, Stress Response, Cytology, Germ Cells, Reproductive Function

ISSUE 22

PAPERS:

P1004(22/89) Serova LV, Chel'naya, Bryantseva LA.
Structure and metabolism of the organs of animals at various stages of postnatal ontogeny: General state of the animals. Body and organ weight. Blood profile.
In: Gazenko OG (editor). Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages 112-114.

Developmental Biology, Postnatal Ontogeny, Growth, Body Weight, Liver, Kidney, Endocrinology, Thymus, Adrenal Gland; Hematology, Blood Profile
Rats, Neonates
Space Flight, COSMOS-1514

P1005(22/89) Yurchovichova Ya., Yezhova D, Bigash M (Czechoslovakia), Serova LV (USSR).
Structure and metabolism of the organs of animals at various stages of postnatal ontogeny: Concentration of hormones in blood plasma.
In: Gazenko OG (editor). Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages 114-115.

Developmental Biology, Postnatal Ontogeny; Endocrinology, Prolactin, Somatropin, Insulin, Corticosterone
Rats, Neonates
Space Flight, COSMOS-1514

P1006(22/89) Kvetnyanski R, Bazhichek P, Makho A. (Czechoslovakia). Serova, LV (USSR).
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Rats, Neonates
Space Flight, COSMOS-1514

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Developmental Biology, Postnatal Ontogeny; Endocrinology, Thyroid
Rats, Neonates
Space Flight, COSMOS-1514

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Developmental Biology, Postnatal Ontogeny; Hematology, Stem Cells, Hemopoiesis
Rats, Neonates
Space Flight, COSMOS-1514

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Developmental Biology, Postnatal Ontogeny; Body Fluids, Fluid-Electrolyte Concentration
Rats, Neonates
Space Flight, COSMOS-1514

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Developmental Biology, Postnatal Ontogeny; Body Fluids, Electrolytes, Coats, Tails
Rats, Neonates
Space Flight, COSMOS-1514

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Developmental Biology, Postnatal Ontogeny; Metabolism, Lipids
Rats, Neonates
Space Flight, COSMOS-1514

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Developmental Biology, Postnatal Ontogeny; Genetics, Nucleic Acids
Rats, Neonates
Space Flight, COSMOS-1514

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Developmental Biology, Postnatal Ontogeny, Genetics, Nucleic Acids, Biosynthesis
Rats, Neonates
Space Flight, COSMOS-1514

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Developmental Biology, Postnatal Ontogeny; Enzymology, Liver
Rats, Neonates
Space Flight, COSMOS-1514

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Developmental Biology, Postnatal Ontogeny; Cardiovascular and Respiratory Systems, Myocardium
Rats, Neonates
Space Flight, COSMOS-1514

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Developmental Biology, Postnatal Ontogeny; Musculoskeletal System, Collagen
Rats, Neonates
Space Flight, COSMOS-1514

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Developmental Biology, Postnatal Ontogeny; Musculoskeletal System, Cartilage
Rats, Neonates
Space Flight, COSMOS-1514

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Developmental Biology, Postnatal Ontogeny; Reproductive System, Genetics, Cytology, Spermatocytes, Translocations
Rats, Neonates
Space Flight, COSMOS-1514

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Developmental Biology, Neurophysiology, Brain Development; Reproductive Biology
Rats, Pregnant, Fetuses, Neonates
Oxygen Pressure

ISSUE 24:

PAPER:

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Adaptive capacities of the mother-fetus system under conditions of weightlessness.
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Developmental Biology, Reproductive Biology, Adaptation
Rats, Neonates, Fetuses, Pregnant Females; Males
Space Flight, COSMOS-1514, COSMOS-1667

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Developmental Biology, Embryo Experiments, Prenatal Development, Reproductive System
Rats, Fetuses, Pregnant Females
Dynamic Space Flight Factors, Vibration, Linear Acceleration, Impact

P1168(25/89) Serova LV, Denisova LA, Natochin YuV (USSR), Pospishilova I, Pospishil M(Czechoslovakia), Lavrova YeA, Chel'naya NA, Shakhmatova Yel, Meyserov YeS (USSR).
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Developmental Biology, Prenatal Development, Reproductive System; Musculoskeletal System, Connective Tissue; Hematology, Anemia; Stress Response
Rats, Fetuses, Pregnant Females
Hypergravity, Centrifugation

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Endocrinology, PTH, STH, Calcitonin, Gastrin; Metabolism, Calcium, Phosphorus
Humans, Males
Hypokinesia With Head-Down Tilt, Long-Term

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Activity of the sympathetic-adrenal system in humans exposed to experimental simulations of weightlessness.
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Endocrinology, Sympathetic Adrenal System, Stress; Neurophysiology, Motion Sickness
Humans, Males
Weightlessness Simulations, Suit Immersion

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Endocrinology, Insulin
Humans, Cosmonauts
Space Flight, Long- and Short-term, Soyuz, Salyut-7, Hypokinesia With Head-Down Tilt

P1114(24/89)* Vorob'yev DV, Petrichenko IYe.
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Endocrinology, Glucocorticoids, Tissue Sensitivity
Humans, Males
Hypokinesia with Head-Down Tilt; Countermeasures, Drugs, Exercise

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Endocrinology, Sympathetic Adrenal Responses
Humans, Cosmonauts
Space Flight, Long-Term, Salyut-7

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Enzymology, Liver Dehydrogenase Activity
Rats
Gravitational Biology, Hypergravity, Centrifugation

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Authors' Affiliation: All-Union Cardiological Research Center, USSR Academy of Medicine, Moscow; Institute of Pathology and Pathological Physiology; Orenburg Medical Institute

Enzymology, Antioxidant Enzymes, Liver; Metabolism, Lipid Peroxidation
Rats
Psychology, Stress; Adaptation, Hypoxia

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The effects of vibration, impact, and radial acceleration on blood enzyme activity of primates.
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Enzymology, Blood Enzymes
Primates, Rhesus Monkeys, Males
Habitability and Environmental Effects, Vibration, Impact, Radial Acceleration

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Equipment and Instrumentation, Head Protection, Safety Criteria
Humans
Impact

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Equipment and Instrumentation, Ultrasound
Humans
Skull, Nonelectrical Processes

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(15 references; 6 in English)
Authors' Affiliation: A. N. Bakh Institute of Biochemistry, U.S.S.R. Academy of Sciences, Moscow

Exobiology, Prebiological Evolution
Melanoidins, Abiogenic Synthesis
Catalytic Propertes

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Abstract of talk presented at the meetings of the Second U.S./U.S.S.R. Joint Working Group on Space Biology and Medicine. September 15-24, 1988, Washington D.C.
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Exobiology
Microbiology, Chemolithoautotrophic Bacteria
Mars, Life

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Exobiology, Biological Effects
Mice
Lunar Soil, Superparamagnetism

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PAPER:

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Gastrointestinal System, Hepatobiliary System, Liver, Gallbladder
Humans, Males
Hypokinesia With Head-Down Tilt, Short-Term

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Genetics, Nucleic Acids; Developmental Biology, Normal Growth, Body Weight
Rats
Hypokinesia, Long-Term; Immobilization; Recovery

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[28 references; 18 in English]
Authors' Affiliation: Institute of Medical Enzymology, USSR Academy of Medicine, Moscow.

Neurophysiology, Enzymology, Brain Peptidases, Enkephalin, Angiotensin, Endocrinology, Hypophysis, Adrenal Gland, Immunology
Rats, Male

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A comparative analysis of the effects of weightlessness and hypergravity on the prenatal development of mammals.
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Rats, Mice
Space Flight, COSMOS-1514; Hypergravity, Centrifugation

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Neurophysiology, Cardiovascular and Respiratory Systems, Human Performance
Humans
Habitability and Environment Effects, Protective Suits, Ammonia, Carbon Monoxide

P960(21/89)* Savina VP, Mukhamediyeva LN, Kalandarov S, Nikitin Yel.
Human response to chemical substances in a sealed living space.
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Adaptation, Chemical Toxins, Ammonia
Humans
Habitability and Environment Effects, Sealed Environment

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Humans, Animals, Review Article
Space Station, Mir, Life Support Systems, Pressurized Living Quarters

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Ultraviolet Deficiency, Prevention
Humans
Habitability and Environmental Effects, Airtight Living Environment

P1076(23/89)* Svistunov NT, Bukharin YeA.
Reactions of the auditory, vestibular and visual systems in humans to the effects of intermittent noise.
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Neurophysiology, Sensory Physiology, Auditory, Visual, Vestibular Sensitivity
Humans, Operators
Habitability and Environmental Effects, Noise, Intermittent

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Development of a regimen for sanitary-hygienic procedures (i.e., a washing regimen).
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Hygiene, Skin Parameters
Humans, Male and Female
Habitability and Environmental Effects, Showering Schedule

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PAPERS:

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Hematology, Acid-Base Equilibrium
Humans
Habitability and Environment Effects, Airtight Environments, Acetic Acid Fumes

P1116(24/89)* Sosnovskiy AV.
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Operational Medicine, Thermal Status
Humans
Habitability and Environment Effects, Airtight Environment, Hypercapnic Atmosphere, Elevated Temperature

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PAPERS:

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Habitability and Environment Effects, Hygienic Studies, Toxicology
Alcohols, Limit Values
Equipment and Instrumentation, Gas Chromatography, Group

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Hematology, Homeostatic Response; Enzymology; Endocrinology
Rats
Space Flight, Short-Term, COSMOS-1667

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Hematology, Lymphopoiesis, Bone Marrow
Rats, Female
Radiobiology, g-Radiation, Low Doses, Long-Term, Mathematical Modeling

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Human Performance, Job Performance; Psychology, Psychophysical Parameters
Humans, Flight Instructors
High Workload, Electroanalgesia

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Human Performance, Work Capacity
Humans, Operators
Pharmacological Countermeasures; Actoprotectors, Bemityl; Antigravity Suit,. Acceleration, Coriolis, Posthypnotic Suggestion , Sleep Deprivation

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Perception, Differential Sensitivity, Visual, Auditory, Tactile, Kinesthetic
Humans, Operators
Human Performance, Workload

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Human Performance, Work Capacity
Humans, Males, Sailors
Physical Exercise, Work-Rest Schedules

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The physiological mechanisms of autogenic training and its use with sailors on long-term cruises.
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Authors' affiliation: Medical Corps

Human Performance
Humans, Sailors
Long-Term Cruises, Autogenic Training

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MONOGRAPH:

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[212 pages; 38 Figures; 28 tables; 322 references]
Authors' Affiliation: Neurokinetic Research Institute, Rostov University

KEY WORDS: Human Performance, Psychology, Neurophysiology, Functional State, EEG Dynamics, Man-Machine Systems, Mathematical Modeling

M147(23/89) Dikaya LG, Zankovskiy AN, Sukhodoyev VV, Mitrofanov BN (editors).
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Funktsional'nyye Sostoyaniya i Effektivnost; Deyatel;nost Cheloveka-Operatora v Rezhime Neprerivnoy Deyatel'nosti
[The Functional State and Performance Efficiency of a Human Operator On a Uninterrupted Work Schedule [Sleep Deprivation;]
Moscow: Institute of Psychology, USSR Academy of Sciences; 1977
[291 pages]

KEY WORDS: Human Performance, Functional State, Human Operator, Sleep Deprivation, Psychology, Extreme Conditions, Group Dynamics, Adaptation

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PAPER:

P1127(24/89) Myasnikov VI, Ryzhov BN.
Work and rest schedule and efficiency of operator performance.
In: Funkcional;nye Sostoqniq i ~ffektivnost; Deqtel;nosti Heloveka-Operatora v Re'ime Nepreryvnoj Deqtel;nosti/Funktsional'nyye Sostoysniya i Effektivnost; Deyael'nosti Cheloveka-Operatora v Rezhime Nepreryvnoy Deyatel'nosti [***Functional State and Efficiency of Human Operator Performance on Uninterrupted Work Schedules].***
Moscow: Institute of Psychology, USSR Academy of Sciences, 1987.
92-110.

Human Performance, Biological Rhythms, Operator Performance, Efficiency Psychology, Stress
Humans, Males and Females
Work-Rest Schedules, Shifted, Sleep Deprivation

ISSUE 25:

P1132(25/89)* Oboznov AA, Ponomarenko VA, Arkhangel'skiy DYu.
Psychological preparation of operators for performance under conditions of prolonged acceleration.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(4): 26-29; 1989.
[3 references; none in English]

Human Performance, Operator Performance, Tracking
Humans, Operators
Psychology, Pretraining, Acceleration, Prolonged

P1146(25/89)* Yablon;ko YuP, Anishchenko VF.
Analysis of techniques for displaying information to operators performing control tasks.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(4): 83-85; 1989.
[20 references; 9 in English]

Human Performance, Control Tasks
Humans, Operators
Man-Machine Systems, Information Displays; Mathematical Modeling

ISSUE 23

MONOGRAPH:

M149(23/89) Konstantinova IB.
Sistema Immuniteta v Ekstremal'nykh Usloviyakh: Kosmicheskaya Immunologiya. Система Иммунитета в Екстремальных УсловияхЬ Космическая Иммунология ***[The Immune System Under Extreme Conditions:: Space Immunology]*** No. 59 in the series Problemy Kosmicheskoy Biologii. Problemy Kosmiheskoj Biologii. [Problems of Space Biology].
Moscow: Nauka; 1988.
[289 pages; 11 Tables; 42 Figures; 688 references]

KEY WORDS: Immunology, Space Flight, Long-Term, Short-Term, COSMOS, Salyut-4, -6, -7, Humans, Cosmonauts, Cellular Immunity, Humoral Immunity, Allergy, Rats, Paramecia, Lymphocytes, Musculoskeletal System, Osteoclast Activating Factor, Hypokinesia , Stress

ISSUE 24:

PAPERS:

P1123(24/89) Konstantinova IV.
Manned space flights and the immune system. Long-term flights.
In: Konstantinova IV.
Sistema Immuniteta v Ekstremal'nykh Usloviyakh: Kosmicheskaya Immunologiya. Система Иммунитета в Екстремальных УсловияхЬ Космическая Иммунология ***[The Immune System Under Extreme Conditions: Space Immunology]*** No. 59 in the series Problemy Kosmicheskoy Biologii. Problemy Kosmiheskoj Biologii. [Problems of Space Biology].

Moscow: Nauka; 1988.
Pages 73-104

Immunology. Cellular and Humoral, Allergy
Humans, Cosmonauts
Space Flight, Long-Term, Salyut-4, -6, -7

P1124(24/89) Konstantinova IV.
Manned space flights and the immune system. Short-term flights.
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Sistema Immuniteta v Ekstremal'nykh Usloviyakh: Kosmicheskaya Immunologiya. Система Иммунитета в Екстремальных УсловияхЬ Космическая Иммунология ***[The Immune System Under Extreme Conditions: Space Immunology]*** No. 59 in the series Problemy Kosmicheskoy Biologii. Problemy Kosmiheskoj Biologii. [Problems of Space Biology].
Moscow: Nauka; 1988.
Pages 104-124

Immunology, Cellular, Humoral, Allergy
Humans, Cosmonauts
Space Flight, Short-Term, Salyut-6, -7, Soyuz

P1125(24/89) Konstantinova IV.
Space flights of animals on COSMOS biosatellites.
Konstantinova IV.
Sistema Immuniteta v Ekstremal'nykh Usloviyakh: Kosmicheskaya Immunologiya. Система Иммунитета в Екстремальных УсловияхЬ Космическая Иммунология ***[The Immune System Under Extreme Conditions: Space Immunology]*** No. 59 in the series Problemy Kosmicheskoy Biologii. Problemy Kosmiheskoj Biologii. [Problems of Space Biology].
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Pages 155-174.

Immunity. Cellular, Humoral, Bone Marrow, Lymphatic System, Spleen, Thymus
Rats
Space Flight, COSMOS-605, -782, -936, -1667

P1126(24/89) Konstantinova IV.
Experiments in weightlessness on isolated cells.
In: Konstantinova IV.
Sistema Immuniteta v Ekstremal'nykh Usloviyakh: Kosmicheskaya Immunologiya. Система Иммунитета в Екстремальных УсловияхЬ Космическая Иммунология ***[The Immune System Under Extreme Conditions: Space Immunology]*** No. 59 in the series Problemy Kosmicheskoy Biologii. Problemy Kosmiheskoj Biologii. [Problems of Space Biology].
Moscow: Nauka; 1988.
Pages 175-190.

Immunology, Cytology, Isolated Cells, Lymphocytes, Interferon, Concanavalin A; Cell Division, Cell Populations
Human Cells, Microbiology, Paramecia
Space Flight, Salyut-6, -7, COSMOS-1667

ISSUE 25:

PAPERS:

P1170(25/89) Konstantinova IV.
Prospects for the study of changes in the immune system that mediate disruptions of calcium metabolism in bone tissues under conditions of weightlessness and hypokinesia.
In: Konstantinova IV.
Sistema Immuniteta v Ekstremal'nykh Usloviyakh: Kosmicheskaya Immunologiya. Система Иммунитета в Екстремальных УсловияхЬ Космическая Иммунология ***[The Immune System Under Extreme Conditions: Space Immunology]*** No. 59 in the series Problemy Kosmicheskoy Biologii. Problemy Kosmiheskoj Biologii. [Problems of Space Biology].
Moscow: Nauka; 1988.
Pages 191-209.

Immunology, Musculoskeletal System, Bones, Metabolism, Calcium ,Metabolism; Osteoclast Activating Factor
Humans, Cosmonauts; Rats; Mice
Space Flight, Weightlessness

P1171(25/89) Konstantinova, IV.
The human immune system: Effects of simulation of stress situations.
In: Konstantinova IV.
Sistema Immuniteta v Ekstremal'nykh Usloviyakh: Kosmicheskaya Immunologiya. Система Иммунитета в Екстремальных УсловияхЬ Космическая Иммунология ***[The Immune System Under Extreme Conditions: Space Immunology]*** No. 59 in the series Problemy Kosmicheskoy Biologii. Problemy Kosmiheskoj Biologii. [Problems of Space Biology].
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Immunology
Humans
Psychology, Stress: Isolation

P1164(25/89) Konstantinova IV.
Space flight factors and the human immune system: Hypokinesia.
In: Konstantinova IV.
Sistema Immuniteta v Ekstremal'nykh Usloviyakh: Kosmicheskaya Immunologiya. Система Иммунитета в Екстремальных УсловияхЬ Космическая Иммунология ***[The Immune System Under Extreme Conditions: Space Immunology]*** No. 59 in the series Problemy Kosmicheskoy Biologii. Problemy Kosmiheskoj Biologii. [Problems of Space Biology].
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Immunity
Humans
Hypokinesia With Head-Down Tilt; Exercise; LBNP; Salt Supplements

P1166(25/89) Lapayev EV, Azhayev AN, Kustova KA, Mar'yanskiy AA.
The effect of high environmental temperature on the thermal status and immunological reactivity of the human body.
Malkin VB, Kosmolinskiy FP, Kuznets Yel (editors).
Chelovek i Kosmos: Idei K.E. Tsiolkovskogo i ikh razvitiye v sovremennoy biomeditsine.Trudy XXII Chtenij, posvyashchennykh razrabotke nauchnogo naslediya i razvitiyu idej K.E. Tsiolkovskogo (Kaluga, 15-18 sentyabrya 1987). Человек и Космос Идеи К.Э. Циолковского и их Развитие в современноы биомедицине.Труды ХХИИ Чтений; посвященных разработке научного наследия и развитию идей К.Э. Циолковскогю (Калуга; 15-18 сентября1987)
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[7 references; none in English]

Immunology, Immunological Reactivity; Thermal Status
Humans
Heat

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Biological research in space and its significance for closed ecological systems.
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[22 references; 3 in English]
Author's Affiliation: Institute of Biomedical Problems, U.S.S.R. Ministry of Health, Moscow

Life Support Systems, CELSS, Population Level Effects, Ecosystems
Microbiology, Botany, Algae, *Chlorella*
Space Flight

ISSUE 22

PAPERS:

P989(22/89) Meleshko GI, Shepelev YeYa.
Man-rated biological life support systems .
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(6): 30-36; 1988.
(No references.)

Life Support Systems, CELSS, Man-Algae-Waste Mineralization System; Man-Algae-Higher Plants, Botany
Theoretical Article
Space Flight, Biospherics

P1029(22/89)* Pak Z, Sytnikkova, NN, Berlin AA, Koloskova YuS, Shirobokov VP, Tyshko AG.
Hygienic aspects of wash water reclamation systems.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(1): 67-70; 1989.
[5 references; none in English]

Personal Hygiene, Wash Water
Humans, Males and Females, Individual Differences
Life Support System, Water Regeneration System, System Test, Detergents

P1030(22/89)* Lebedeva TYe, Nazarov NM, Chizhov SV.
Study of the effectiveness of urine preservatives within water reclamation systems.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(1): 70-74; 1989.
[7 references; 1 in English]

Urine Preservation, Microbiology, Bacteria
Humans
Life Support Systems; Water Reclamation Systems

P1032(22/89)*Vasilenko II, Fedosova AN, Shevel' NM, Sinyak YuYe.
Use of hydrogen peroxide and iron-containing catalysts to remove phenol from water.
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Life Support Systems, Water Reclamation, Urine Recycling
Chemical Experiment
Phenol, Hydrogen Peroxide, Iron-Containing Catalysts

P1038(22/89)* Chernyakov IN.
Effectiveness of oxygen equipment within a life support system for stratospheric flight.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(1): 11-16; 1989.
[52 references; 18 in English]

Life Support Systems, Oxygen Equipment
Equipment and Instrumentation, Systems Test
Aircraft Flight, Stratospheric

ISSUE 23

Special Feature: ***Life Support Systems: Biomedical Support of Manned Flights to Mars***

By. Gazenko OG, Grigor'yev AI, Il'yin YeA, Institute of Biomedical Problems; USSR Ministry of Health

In: Zemlya i Vselennaya; 1988 (5): 15-20.

KEY WORDS: Operational Medicine, Biomedical Support, Space Flight, Manned, Mars, Life Support Systems, CELSS, Habitability and Environmental Effects, Psychology, Radiobiology, Metabolism, Musculoskeletal System, Immunology, Gravitational Biology, Artificial Gravity

ISSUE 24:

P1108(24/89) Vasilenko II, Shevel NM, SInyak YuYe.
The use of hydrogen peroxide and lead oxide to remove urea from water.
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23(3): 73-75; 1989.
[17 references; 2 in English]

Life Support Systems, Water Reclamation, Urea
Humans
Equipment and Instrumentation, Hydrogen Peroxide, Lead Oxide

P1109(24/89)*Zlotopol'skiy VM, Grishayenkov BG, Smirnov IA.
Acceleration of formaldehyde synthesis as the first stage in production of carbohydrates from wastes.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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Life Support Systems, Carbohydrate Production, Wastes
Humans
Formaldehyde Synthesis

ISSUE 25:

PAPERS:

P1143(25/89)*Shikina MI, Aladinskaya TI, Volkova LN, Duplik AZ.
Artificial mineralization of desalinized potable water with salt tablets and powders.
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23(4): 74-76; 1989.
[6 references; none in English]

Life Support Systems, Desalinized Potable Water
Humans
Salt Tablets and Powders

MONOGRAPH:

M150(25/89) Troshikhin GV.
Организм в гелио-кислородныы среде Организм в гелио-кислородный среде [***The organism in a helium-oxygen atmosphere.***]
Leningrad: Nauka; 1989.
[157 pages; 12 Tables; 24 Figures; 477 references]

KEY WORDS: Life Support System, Biological Effects; Hypoxia; Hyperoxia;Warm Blooded Animals; Biospherics, Helium Atmospheres; Altered Oxygen Pressure

ISSUE 23

MONOGRAPH:

M148(23/89) Zalikhanova NG (editor).
Бионика и Биомедкибернетика-?:Ь Материалы Всесоюзной Конференции Биотехнические Системы
Bionika i Biomedkibernetika-85: Materialy Vsesoyuznoy Konferentsii: Biotekhnicheskiye Sistemy
[Bionics and Biomedical Cybernetics-85: Material (paper abstracts) from an All-Union Conference: Biotechnical Systems;]
Leningrad: USSR Academy os Sciences. Scientific Council on the Multidisciplinary Problem of Cybernetics; 1986

KEY WORDS: Man-Machine Systems, Bionics, Operational Medicine, Biomedical Cybernetics, Human Performance, Mathematical Modeling, Psychology, Stress, Self-Regulation, Equipment and Instrumentation, Cardiovascular and Respiratory Systems, Neurophysiology, Biological Rhythms

ISSUE 22

PAPER:

P1023(22/89)* Smirnova OA
Mathematical modeling of the cyclic kinetics of hemopoiesis.
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23(1): 41-45; 1989.
[12 references; 5 in English]

Mathematical Modeling
Mammals
Hematology, Hemopoiesis

ISSUE 23

PAPER:

P1075(23/89)*Maknenko AA, Popov VI, Sergeyev ST.
Use of cluster analysis in biomedical investigations of a man-environment system using small samples.
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[10 references; 2 in English]

Mathematical Modeling, Cluster Analysis, Biomedical Data, Small Sample, Metabolism
Humans
Habitability and Environmental Effects, Airtight Environment

ISSUE 24:

P1117(24/89) Kondrachuk AV, Sirenko SP.
Mathematical analysis of one conception of how the cupula of the semicircular canals functions.
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[10 references; 8 in English]

Mathematical Modeling
Humans
Neurophysiology. Semicircular Canals, Cupula

ISSUE 25:

PAPERS:

P1133(25/89)* Astanin SV.
An integrated approach to modeling the functional state of a human operator based on the theory of fuzzy sets.
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[3 references; none in English]

Human Performance, Functional State
Humans, Operators
Mathematical Modeling, Fuzzy Sets, Man-Machine Systems

P1145(25/89)* Mazurin YuV, Stupakov GP.
Predicting the effects of linear and angular impact acceleration on humans.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(4): 79-83; 1989.
[4 references; 1 in English]

Mathematical Modeling, Physiological Effects, Prediction
Humans
Acceleration, Linear, Impact

ISSUE 22

PAPERS:

P997(22/89) Meyerson FZ, Arkhipenko YuV, Didenko VV.
Selective suppression of lipid peroxidation in the brain in response to stress.
Byulleten' Eksperimental'noy Biologii i Meditsiny.
1988(11):542-544.
[7 references; 2 in English]
Authors' affiliation: Institute of General Pathology and Pathological Physiology, USSR Academy of Medicine, Moscow

Metabolism, Lipid Peroxidation; Neurophysiology, Brain
Rats, Males
Psychology, Stress

P998(22/89) Meyerson FZ, Tverdokhlib Vp, Nikonorov AA.
Prevention of atherogenic dyslipoproteinemia and metabolic liver disorders in response to emotional pain/stress.
Voprosy Meditsinskoy Khimii,
1988(6):104-109.
[25 references; 8 in English]
Authors' Affiliation, Institute of General Pathology and Pathological Physiology, USSR Academy of Medicine, Moscow; Orenburg Medical Institute

Metabolism, Dyslipoproteinemia, Liver Disorders
Rats, Males
Psychology, Emotional Pain/Stress; Adaptation, Hypoxia; Antioxidants

P1034(22/89)* Tikhomirov NA, Potapov PP.
Carbohydrates and lipids in the serum and livers of rats repeatedly subjected to hypokinesia.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(1): 81-83; 1989.
[8 references; 2 in English]

Metabolism, Lipids, Carbohydrates, Blood, Liver
Rats
Immobilization Cages, Repeated Exposure

ISSUE 23

PAPER:

P1062(23/89) Zezerov AYe, Ivanova SM , Morukov BV, Ushakov AS,
Lipid peroxidation in the blood of humans undergoing 120 days of hypokinesia with head-down tilt.
Kosmicheskaya Biologiya i Aviaskosmicheskaya Meditsina.
23(2): 28-33; 1989.
[30 references; 9 in English]

Metabolism, Lipid Peroxidation, Mineral Metabolism
Humans
Hypokinesia With Head-Down Tilt, Long-Term; Countermeasures, Nutrition, Vitamin E, Amino Acids, Folicobalamine; Exercise

P1078(23/89)* Shatemirova KK, Min'ko YuV, Zelenshchikova VA.
The effects of adaptation to barochamber hypoxia on certain parameters of biogenic amine metabolism in rats.
Kosmicheskaya Biologiya i Aviaskosmicheskaya Meditsina.
23(2): 89-91; 1989.
[7 references; 3 in English]

Metabolism, Biogenic Amines
Rats
Adaptation, High Altitudes, Barochamber

ISSUE 24:

PAPERS:

P1120 (24/89) Yershikov SM.
Rate of glyconeogenesis in the liver of rats in the recovery period after long-term hypokinesia.
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35(3): 55-58; 1989.
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Authors affiliation: Yaroslavl Medical Institute

Metabolism, Glyconeogenesis, Liver
Rats
Hypokinesia, Long-Term

ISSUE 25:

PAPERS:

P1134(25/89)* Delenyan NV, Markin AA.
State of the lipid peroxidation system in the tissues of rats after a 7-day flight on COSMOS-1667.
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23(4): 34-37; 1989.
[20 references; 9 in English]

Metabolism, Lipid Peroxidation
Rats
Space Flight, COSMOS-1667

P1138(25/89)* Popova IA, Vetrova YeG, Drozdova TYe.
The effect of long-term hypokinesia with head-down tilt on activity of enzymes participating in catabolic and anabolic metabolism.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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[14 references; 2 in English]

Metabolism, Catabolic, Anabolic, Enzymology
Humans, Males
Hypokinesia With Head-Down Tilt; Long-Term; Pharmacological Countermeasures, Physical Exercise

P1139(25/89)* Tolkacheva NV, Levachev MM, Medvedev FA, Lupinovich VA, Sorokina AG.
Binding of fatty acids and products of their peroxidation by serum albumin under conditions of strenuous exercise.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(4): 55-59; 1989.
[21 references; 7 in English]

Metabolism, Fatty Acids, Binding
Humans, Athletes, Nonathletes
Exercise, Strenuous

P1150(25/89)*Potapov PP.
Rate of glycolysis and glyconeogenesis in skeletal muscles of rats during readaptation after hypokinesia of up to 30-days.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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[13 references; none in English]

Metabolism, Glycolysis, Glyconeogenesis; Musculoskeletal System, Skeletal Muscles
Rats
Hypokinesia, Readaptation

ISSUE 23

PAPERS:

P1073(23/89)* Drugova NA, Chernova LS.
A comparative ecological study of the microbial cenosis of the lettuce rhizosphere under different conditions of cultivation.
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[17 references; 6 in English]

Ecology, Microbial Cenosis
Microbiology; Botany, Higher Plants, Lettuce Rhizosphere
Cultivation Conditions, Space Greenhouses

ISSUE 24:

PAPER:

P1104(24/89)Polikarpov NA, Bragina MP.
Sensitivity to antibiotics of opportunistic human indigenous microorganisms. before and after isolation in an airtight environment.
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Microbiology, Opportunistic Microorganisms, Drug Resistance
Humans
Isolation, Airtight Environment

ISSUE 25:

PAPER:

P1135(25/89)* Volz PA.
Fungal experiments in outer space.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(4): 37-43; 1989.
[56 references; 50 in English]

Microbiology, Fungi
Yeast, Conidia, Ascophores
Space Flight, Apollo; Radiobiology, Solar Radiation

P1149(25/89)* Il'in VK.
Drug resistance of E. col isolated from cosmonauts.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(4): 90-91; 1989.
[9 references; none in English]

Microbiology, E. coli, Drug Resistance
Humans, Cosmonauts
Space Flight, Salyut-7

ISSUE 21

PAPERS:

P953(21/89)* Urmancheyeva TG, Eliava VM, Polulyakh YuT.
The effects of long-term hypokinesia on the characteristics of the phasic-tonic motor acts in monkeys.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 46-51; 1988.
[24 references; none in English]

Musculoskeletal System, Gastrocnemius Muscle, Motor Acts, Phasic-Tonic, Fine Motor Skill
Monkeys
Hypokinesia, Horizontal;.Restraint

P954(21/89)* Shvets VN, Pankova AS, Gol'dovskaya MD, Rustam'yan LA.
Dynamics of immobilization osteoporosis in rats.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 51-55; 1988.
[22 references; 12 in English]

Musculoskeletal System, Osteoporosis, Dynamics, Brachia, Tibia, Femur
Rats, Males
Immobilization, Stress, Adaptation

P977(21/89) Skuratova SA, Oganov VS, Murashko LM, Shirvinskaya MA (USSR).
Postnatal differentiation of skeletal muscles. .
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Developmental Biology, Postnatal Development, Musculoskeletal System,
Skeletal Muscles, Differentiation
Rats, Neonates
Space Flight, COSMOS-1514

ISSUE 22

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P992 (22/89) Pozdnyakov OM, Babakova LL, Demorzhi MS.
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Authors Affiliation: Institute of General Pathology and Pathological Physiology, USSR Academy of Health, Moscow

Musculoskeletal System, Striated Muscle, Soleus, Gastrocnemius, Diaphragm
Rats
Space Flight, COSMOS-1667

P1019(22/89) Durnova GN, Vorotnikova YeV, Sakharova ZF, Kaplanskiy AS, Knyazev VM, Dotsenko MA.
Histomorphological study of primate bones after a 14-day period of hypokinesia with head-down tilt.
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Musculoskeletal System, Bones, Tibia, Iliac, Lumbar Vertebrae
Primates, Rhesus
Hypokinesia With Head-Down Tilt

P1020(22/89)* Shvets VN, Pankova AS.
The effects of a-hydroxydimethyl-g-aminopropylidene bisphosphonate on bone tissue of rats undergoing hypokinesia.
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[17 references; 13 in English]

Musculoskeletal System, Bone Tissue, Osteoporosis
Rats
Hypokinesia, Immobilization; Diphosphonates

P1031(22/89) Kuznetsov SL, Talis VL.
Simulating the physiological effects of weightlessness by the method of "head-down suspension" of small laboratory animals.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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Musculoskeletal System, Femur, Atrophy; Enzymology, Muscle Enzymes; Psychology, Behavioral Responses
Rats
Equipment and Instrumentation, Weightlessness Model, Suspension

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Changes in the jaw bones of rats after a 7-day flight on COSMOS-1667.
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Musculoskeletal System, Jaw Bones
Rats
Space Flight, COSMOS-1667

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Musculoskeletal System, Metabolism, Collagen, Bones, Skin
Rats
Space Flight, Cosmos-1667

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Musculoskeletal System, Bone Tissue, Composition, Femur, Parietal Bone, Ectopic Bone, Demineralization, Mineral Metabolism
Mice
Hypokinesia

ISSUE 24:

PAPER:

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Musculoskeletal System, Metabolism, Calcium Metabolism, Immunology, Osteoclast-Activating Factor
Humans
Hypokinesia With Head-Down Tilt, Long-Term

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PAPERS:

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Musculoskeletal System, Bone Tissue, Osteoclasts
Rats
Hypokinesia, Diphosphonates; Nutrition, Vitamin D_3

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Musculoskeletal System, Muscles, Mechanical Properties
Humans, Athletes
Dry Immersion, Tilt Test

P1167(25/89) Kuznetsov SL, Stepantsov VV.
Response of striated skeletal muscle fiber in humans to long-term hypokinesia with head-down tilt.
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Authors' affiliations: Institute of Biomedical Problems, USSR Ministry of Health; I. M. Sechenov First Medical Institute, Moscow.

Musculoskeletal System, Skeletal Muscle Fibers
Humans
Hypokinesia With Head-Down Tilt, Long-Term; Exercise

MONOGRAPH:

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Note this is a translation of an announcement published in a journal; we currently have no additional information about this monograph.

KEY WORDS: Musculoskeletal System, Bones, Humans, Cosmonauts; Rats, Tortoises, Dogs, Primates,Space Flight, Long-Term, Weightlessness

ISSUE 21

PAPERS:

P966(21/89)* Petrova TV, Bobrovnitskiy IP.
The physiological role and significance of prostaglandins in physiological response to exposure to adverse environmental factors.
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[108 references; 54 in English]

Neurophysiology, Prostaglandins, Metabolism, Cardiovascular and Respiratory System
Review Paper
Adaptation, Adverse Environmental Factors; Space Flight, Soyuz-26, Soyuz-29

P949(21/89)* Lychakov DV, Boyadzhiyeva-Mikhaylova A, Khristov I, Panshchinin AN, Yevdokimov II, Markov AA (U.S.S.R., Bulgaria).
Changes in the otolith apparatus of rats and fish after long-term rotation in hypergravity.
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Neurophysiology, Vestibular System, Otolith
Rats, Fish
Gravitational Biology, Rotation, Long-Term, Hypergravity

P967(21/89) Rasulov MM, Kaplan YeYa, Velikaya MV.
Characteristics of neurophysiological changes in response to experimental stress induced by long-term group isolation in rats.
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LXXIV(8): 1087-1093.
(17 references; 5 in English)
Authors' Affiliation: Institute for Biological Tests of Chemical Compounds, Moscow

Neurophysiology, Limbic Structures, Reproductive System
Rats
Isolation, Sexual Deprivation

P968(21/89) Maksimuk VF, Skoromny NA.
The role of cholinergic mechanisms in changes of the functional activity of the brains of rabbits during motion sickness.
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Authors' Affiliation: I.M. Sechenov Institute of Evolutionary Physiology and Biochemistry. U.S.S.R. Academy of Sciences, Leningrad

Neurophysiology, Functional Activity, Brain; Cardiovascular and Respiratory Systems, Blood Flow
Rabbits
Vestibular System, Motion Sickness, Countermeasures, Scopolamine

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PAPERS:

P1026(22/89)* Razinkin SM, Kordenko AN, Ushakov IB, Dukhovich VM.
Some parameters of brain metabolism under exposure to hypoxia and overheating.
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(13 references; 2 in English)

Neurophysiology, Brain; Metabolism, Enzyme Activity; Body Fluids, Brain Hydration
Rats, Female
Adaptation, Hypoxia, Overheating, Long-term; Radiobiology, Gamma Irradiation

ISSUE 23

PAPERS:

P1077(23/89)* Drozd YuV, Puko VM, Ryumin Yul.
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Neurophysiology, Blood-Brain Barrier, Permeability
Mice, Male; Cats
Motion Sickness, Simulated; Alpha-Tocopherol

P1087(23/89) Zhuravleva NG.
Restructuring of bioelectric activity of the brain during adaptation to long-term hypokinesia.
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Neurophysiology, Bioelectric Activity, Brain
Rats, Males
Adaptation, Hypokinesia, Long-Term

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Dependence of lipid peroxidation on nervous system type and endurance of physical exercise.
Fiziologicheskiy Zhurnal.
35(2): 55-59; 1989.
[15 references; none in English]
Authors' Affiliation: Poltava Medical Stomatological Institute, Ukrainian Ministry of Health

Metabolism, Lipid Peroxidation; Endocrinology, Adrenal Gland, Hypothalamus; Brain
Rats, Males
Neurophysiology, Nervous System Type; Exercise Endurance

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PAPERS:

P1101(24/89) Repin AA, Donskov AM.
Physiological reactions to electrical stimulation of the labyrinths.
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Physiological Response
Humans
Neurophysiology, Electrical Stimulation, Labyrinth

P1106(24/89) Telezhnikov AV, Savchuk LA.
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Neurophysiology, Rotational Nystagmus
Humans, Patients, Cochleovestibular Disorders
Autocorrelational Analysis

P1112(24/89)* Gavrilin VK.
Comparison of two methods for assessing the paired activity of the human otolith apparatus.
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Neurophysiology, Otolith, Paired Activity
Humans
Methods of Assessment, Afterimage, Compensatory Eye Movements

P1113(24/89)* Bodo G, Elkan K, Bentse G (Hungary).
The effect of the drug "Yumex" on the development of experimental motion sickness.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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Neurophysiology, Motion Sickness, Experimental
Humans
Countermeasures, Drugs, Deprenyl, Dramamine

P1118(24/89) Gorgiladze GI, Bryanov II.
Space motion sickness.
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Neurophysiology, Space Motion Sickness
Humans, Cosmonauts
Review Article

P11121 (24/89) Atchabarov BA, Abeuov BA, Sydykov US.
The effect of head-down position on resorption of cerebrospinal fluid and certain hemodynamic parameters during elevated intracranial pressure.
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Authors' Affiliation: Institute of Pathology, Kazakh Ministry of Health

Neurophysiology, Resorption of Cerebrospinal Fluid
Dogs
Head-Down Position, Elevated Intracranial Pressure

P1122(24/89) Leshchinyuk II, Konovalova YeO, Kvitchataya AI, Shamray
The effect of antimotion sickness drugs (vestibuloprotectors) on the cyclic nucleotide system in experimental motion sickness.
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[13 references; 4 in English]
Authors' Affiliation: Ukrainian School of Medicine, Kharkov

Neurophysiology, Motion Sickness, Experimental, Cyclic Nucleotides
Rats
Countermeasures, Drugs, Antimotion-Sickness

P1093(24/89) Krasnov IB, Olenev SN, Babichenko II, Kesarev VS.
Morphological and histochemical analysis of the brain.
In: Gazenko OG (editor).
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Neurophysiology, Brain Morphology, Brain Histochemistry
Developmental Biology, Rats, Fetuses, Neonates
Space Flight, COSMOS-1514

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PAPERS:

P1130(25/89)*Ponomarenko VA, Yegorov SV, Zhernakov OV.
Potential use of evoked potential of the brain in diagnosis of fatigue in flight personnel.
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23(4): 21-23; 1989.
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Human Performance, Fatigue
Humans, Flight Personnel
Neurophysiology, Evoked Brain Potential, Diagnosis

P1131(25/89)* Petrenko YeT.
Work capacity and spatial-temporal organization of brain biopotentials of operators
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(4): 23-26;1989.
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Human Performance, Work Capacity, Interference Resistance
Humans, Operators
Neurophysiology, Brain Biopotentials

P1140(25/89)* Repin AA.
Characteristics of visual-vestibulomotor interactions in experimentally induced labyrinth asymmetry.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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Neurophysiology, Visual-Vestibular Interaction
Humans
Labyrinth Asymmetry

P1141(25/89)* Shumilina VF, Preobrazhenskiy NN.
Study of the otolith membrane of the sacculus and utriculus of a guinea pig.
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Neurophysiology, Otolith Membrane, Otoconia
Guinea Pig
Anatomical Study

P1158(25/89) Ivanov AB.
Change in reflexive vestibular activity in response to upright position.
Vestnik Otorinolaringologii.
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[15 references; none in English]
Author's affiliation: Laboratory of Clinical Otoneurology, Belorussian Scientific Research Institute of Neurology, Neurosurgery, and Physiotherapy, Minsk

Neurophysiology, Vestibular Activity, Reflexive, Nystagmus
Humans, Males
Tilt Tests, Stand Tests

P1165(25/89) Stoyanov AP, Netudykhatka OYu, Alekseyev SV, Grigro'yan RA, Rozanov VA, Yevstafyev VN.
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Fiziologicheskiy Zhurnal.
35(2): 13-18; 1989.
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Authors' Affiliation: Scientific Research Institute for Industrial Hygiene in Maritime Transport, Odessa

Neurophysiology, Brain, GABA, Glutamic Acid; Psychology, Conditioned Response
Rats, Males
Habitability and Environment Effects, Noise, Vibration

ISSUE 22

PAPER:

P1027(22/89)* Davydova NA, Belakovskiy MS, Ushakov AS.
Activity of neurohumoral regulation systems and its adjustment under arid environmental conditions.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(1): 56-61; 1989.
(14 references; none in English)

Neurophysiology, Sympathetic Adrenal System
Humans, Expedition Members, Male
Adaptation, Extreme Factors, Desert; Nutrition, Diet Supplements

ISSUE 23

PAPERS:

P1068(23/89)*Sivuk Akin Abakumova IA, Gur'yeva TS, Gryaznova VN, Korshunova VA, Mosyakina LI, Tret'yakova VA, Tresvyatskaya NA, Khokhlova OS.
The effects of vegetable food products (carrot and radish tops) on certain metabolic parameters in humans.
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Metabolism
Humans, Males
Nutrition, Vegetable, Carrots and Vegetable Tops

ISSUE 25:

PAPER:

P1128(25/89)* Bychkov VP,Kalandarov S, Agureyev AN, Popov IG, Kochetkova AN, Ushakov AS.
Crew nutrition on Salyut-7.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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Nutrition, Nutritional Status, Crew Rations; Menu Selection System
Humans, Cosmonauts, Prime Crews
Space Flight, Long-Term, Salyut-7; Flight Simulations; Isolation

ISSUE 21

PAPERS:

P958(21/89)*Dubinin DM, Polov IG Viktorov AN, Shumilina GA.
The condition of the skin in humans housed in a sealed environment.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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Operational Medicine, Skin
Humans, Males
Habitability and Environment Effects, Sealed Living Environment

P965(21/89)* Ivanov SG, Bogomazov YeYe.
"Dry" immersion and perspectives for its use in clinical practice.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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Operational Medicine, Clinical Practice; Cardiovascular and Respiratory Systems; Body Fluids
Humans, Review Article
Weightlessness Simulation, Dry Immersion

ISSUE 22

PAPERS:

P985(22/89)* Barer AS, Lakota NG, Ostrovskaya GZ, Shashkov VS.
Pharmacological correction of the effects of cold on humans.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(6): 66-73; 1988.
(15 references; 4 in English)

Operational Medicine, Hypothermia
Humans
Pharmacological Countermeasures

P1039(22/89)* Perkovskiy AV, Adamovich BA, Goncharov IG.
Bacterial protection of outpatients given specialized medical care.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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[32 references; 8 in English]

Operational Medicine, Sterile Surgical and Treatment Conditions
Humans, Cosmonauts
Equipment and Instrumentation, Equipment Classification

ISSUE 24:

P1094(24/89) Grigor'yev AI, Il'in YeA, Kholin SF, Ivanovskiy YuP, Pravetskiy NV, Grushchin VI, Shakin VV.
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Operational Medicine, Space Biology and Medicine
Equipment and Instrumentation
Space Flight, Mir, Medilab

P1096(24/89) Plyasiva-Bakunina IA, Volkov VV, Kivayav AA, Kizim LD. Senkevich YuA, Solv'yev VA, Ushakov NA, Gladkikh AF, Kuz'min MP, Tkachenko VK.
A pilot study of the use of contact lenses on long-term space flights.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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Operational Medicine, Contact Lenses
Humans, Cosmonauts
Space Flight, Salyut-7

P1099(24/89) Panferova NYe, Anisimova IV, Pavlova LS, Polyakov VM.
A study of core temperatures in healthy humans undergoing hypokinesia.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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[11 references; 4 in English]

Operational Medicine, Core Temperature
Humans
Hypokinesia with Head-Down Tilt, Long-Term; Exercise

P1102(24/89) Filipenkov SN.
Probability of decompression sickness in tests of high altitude suits..
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(3): 53-58; 1989.
[11 references;3 in English]

Operational Medicine, Decompression Sickness
Humans, Males
Equipment and Instrumentation, High Altitude Suits, Exercise

P1103(24/89) Chadov VI, Iseyev LR.
Variation in the maximum acceptable coefficient of supersaturation during altitude decompression.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(3): 58 -62; 1989.
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Operational Medicine
Humans, Males
Altitude Decompression, Coefficient of Supersaturation, EVA Simulation

ISSUE 25:

PAPERS:

P1142(25/89)* Khomullo GV, Lotova VI, Chernyayev AN.
The effect of somatropin on healing of skin wounds under conditions of hypoxia.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(4): 69-73; 1989.
[18 references; 6 in English]

Operational Medicine, Wound Healing
Rats
Hypoxia, Somatotrophin

ISSUE 21

PAPERS:

P948(21/89)* Sokolov AI, Barmin VA
The effect of unloading of the antigravity system on perception and reproduction of the gravitational vertical in response to optokinetic stimulation.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 24-27; 1988.
[10 references; 6 in English]

Perception, Vertical
Humans, Males
Neurophysiology, Dry Immersion, Optokinetic Stimulation, Proprioceptive Stimulation

ISSUE 22

PAPER:

P1022(22/89)* Tarasenko GI, Shcherbachenko GYe, Petlenko IA.
Synthesized speech -- characteristics of perception under complex acoustic conditions.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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[8 references; 4 in English]

Perception, Speech Perception, Accuracy
Humans,
Equipment and Instrumentation, Speech Synthesis, Noise

ISSUE 21

PAPERS:

P963 (21/89) *Kozlov AT, Tsetsura VN.
Behavior of Limnephilus sp. caddis fly larvae in response to drastic changes in the weight of building materials.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 88-90; 1988.
[7 references; 2 in English]

Psychology, Instinctive Behavior; Adaptation
Insects, Caddis Flies, Larva
Altered Weight of Building Materials

P975(21/89)Serova LV(U.S.S.R.), Alberts J, Keefe D (U.S.A.)
The behavior of female rats while nursing their young..
In: M143(21/89) Gazenko O.G. (editor)Ontogenez mlekopitayushchikh v nevesomosti *[Ontogeny of Mammals in Weightlessness]*
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Psychology, Maternal Behavior, Reproductive System, Nursing
Rats, Mothers
Space Flight, COSMOS-1514

P978(21/89) Ananasenko ZI, Kuznetsova MA, Serova LV, Korotkova (U.S.S.R.).
The development of behavioral reactions and work capacity of the higher nervous system.
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Moscow: Nauka; 1988; pages 104-110.

Psychology, Behavioral Reactions, Neurophysiology, Higher Nervous Activity; Emotionality; Developmental Biology, Postnatal Development
Rats, Early Development
Space Flight, COSMOS-1514, Prenatal Exposure

P979(21/89) Serova LV (U.S.S.R.).
Reactions to stress tests at various stages of postnatal ontogeny.
In: M143(21/89) Gazenko O.G. (editor) Ontogenez mlekopitayushchikh v nevesomosti *[Ontogeny of Mammals in Weightlessness]*
Moscow: Nauka; 1988; pages 110-112.

Psychology, Stress, Stress Test Response, Developmental Biology, Hematology
Rats
Space Flight, COSMOS-1514, Prenatal Exposure; Immobilization

ISSUE 22

PAPERS:

P987(22/89)* Myasnik VI.
From Vostok to Mir: Psychological Aspects.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(6): 17-23; 1988.
(No references.)

Psychology, Space Psychology
Humans, Cosmonauts
Space Flight, Historical Review

ISSUE 22

PAPERS:

P990(22/89)*Kovalev YeYe, Ryzhov NI, Sakovich VA.
The problem of radiation safety of space flights in the Interkosmos program.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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Radiobiology, Radiation Safety
Theoretical Article, Cosmonauts
Space Flight, Interkosmos

P1037(22/89)* Davydov BI, Tikhonchuk VS, Zuyev VS.
Epidemiological observations (follow-up) of exposure to microwaves (neurophysiology, hematological, and ophthalmological effects).
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Biological Effects; Neurophysiology; Hematology; Ophthalmology
Review Article; Humans
Radiobiology; Microwaves

ISSUE 23

PAPERS:

P1082(23/89) Cherkasov GV, Yurova KS.
Acid-base balance of the blood of rats exposed to a constant magnetic field.
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Hematology, Acid-Base Balance, Blood Gases
Rats
Radiobiology, Magnetic Field, Constant

P1085(23/89)Fedorenko BS, Parfenov YuD, Batkay L.
Relative biological effectiveness of accelerated particles based on death rate of animals
Kosmicheskaya Biologiya i Aviaskosmicheskaya Meditsina.
23(2): 96 ; 1989.
[18 references]

Radiobiology, Relative Biological Effectiveness, Death Rate
Rats, Mice
Accelerated Ions, g-Radiation

P1070(23/89)*Antipov VV, Vasin MV, Gaydamakin AN.
Species-specific responses of lymphocyte succinate dehydrogenases to acute hypoxic hypoxia in animals and their association with radiation tolerance.
Kosmicheskaya Biologiya i Aviaskosmicheskaya Meditsina.
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Hematology, Lymphocyte Succinate Dehydrogenase; Metabolism, Rate
Mice, Rats, Dogs, Species Specificity
Radiobiology, Radiation Tolerance, Hypoxia

P1079(23/89)* Vorozhtsova SV, Savinskiy AK,
RBE of fission neutrons at low doses as reflected in cytogenetic changes in the cells of the corneal epithelium in mice.
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[2 references; none in English]

Cytology, Cytogenetic Changes, Cornea
Mice
Radiobiology, Relative Biological Effectiveness, Fission Neutrons, Low Doses

BOOK REVIEW:

BR16(23/89)* Ryshov AI, Logvinov SV.
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Ионизирующие Излучения и МозгЬ Поведенские и Структурно-Функциональные Паттерны
Ioniziruyushchiye Izlucheniya i Mozg: Povedenskiye i Strukturno-Funktsional;nyye Patterny
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KEY WORDS: Radiobiology, Ionizing Radiation, Neurophysiology, Brain, Psychology, Behavior, Human Performance, Work Capacity, Humans, Animals

ISSUE 24:

PAPERS:

P1115(24/89) Vorozhtsova SV, Yartsev Yel.
The effect of taurine on cytogenetic damage in the cornea of mice induced by 9GeV proton irradiation.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
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Radiobiology, Cornea; Cytology, Mitosis, Genetics, Chromosome Aberrations
Mice
Proton Irradiation, Taurine

ISSUE 21

PAPERS:

P955(21/89)* Baykova OV.
Cytophysiological parameters of the state of the reproductive organs of male rats after 7 days of immobilization stress and 7 days of hypokinesia.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(5): 56-59; 1988.
[12 references; none in English]

Reproductive System, Reproductive Organs, Cytophysiological Parameters
Rats, Male
Hypokinesia, Psychology, Immobilization Stress

P973(21/89) Serova LV, Denisova LA, Lavrova LA, Makeyeva VF, Natochin YuV, Pustynnikova AM, Shakhmatova Yel.
Parameters of the reproductive function of the animals: Fetal and placental characteristics.
In: M143(21/89) Gazenko O.G. (editor) Ontogenez mlekopitayushchikh v nevesomosti
[Ontogeny of Mammals in Weightlessness]
Moscow: Nauka; 1988. Pages 71-74.

Reproductive Biology, Reproductive Function, Placenta; Developmental Biology, Fetuses, Musculoskeletal System, Bone
Rats, Females, Pregnant
Space Flight, COSMOS-1514

ISSUE 22

PAPER:

P983(22/89)* Denisova LA, Tikhonova GP, Ananasenko ZI, Pustyynnikova AM, Ivanov YuV, Kolomiyets OL, Mazurova TF.
Study of the reproductive function of male rats after space flight on COSMOS-1667 biosatellite.:
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(6): 58-63; 1988.
(13 references; 3 in English)

Reproductive System, Reproductive Function; Developmental Biology, Prenatal and Early Postnatal Development
Rats, Male
Space Flight, COSMOS-1667

ISSUE 23

PAPERS:

P1058(23/89)* Serova LV.
The effect of weightlessness on the mammalian reproductive system.
Kosmicheskaya Biologiya i Aviaskosmicheskaya Meditsina.
23(2): 11-15 ; 1989.
[40 references; 11 in English]

Reproductive System, Reproductive Function, Impregnation, Abortion, Mating, Estral Cycle, Sperm; Genetics, Mutations; Developmental Biology
Rats, Male, Female
Space Flight, COSMOS-605, -936, -1129, -1514, -1667; Centrifugation; Adaptation

P1042(23/89)Serova LV, Chel'naya, Bryantseva LA.
State of female rats exposed to weightlessness during pregnancy: General state of the animals. Weight of body and organs. Blood Profile.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 38-39.

Developmental Biology, Reproductive System, Hematology; Endocrinology, Adrenals, Thymus,Liver; Kidneys; Myocardium
Rats, Female, Pregnant
Space Flight, Cosmos-1514

P1043(23/89)Yurchovichova Ya, Yezhova D, Vigash M (Czechoslovakia), Serova LV (USSR.)
State of female rats exposed to weightlessness during pregnancy: Concentration of hormones in blood plasma.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness]***
Moscow: Nauka: 1988. Pages: 39-42.

Developmental Biology; Reproductive System; Endocrinology; STH, Prolactin, Corticosterone, Insulin
Rats; Female; Pregnant
Space Flight; COSMOS-1514

P1044(23/89) Kvetnyanski R, Blazhichek P, Makho L (Czechoslovakia), Serova LV (USSR).
State of female rats exposed to weightlessness during pregnancy:The sympathetic adrenal system.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 42-43..

Developmental Biology; Reproductive System; Endocrinology, Sympathetic Adrenal System
Rats; Female; Pregnant
Space Flight; COSMOS-1514

P1045(23/89) Knopp Ya, Brtko Ya. (Czechoslovakia), Serova LV (USSR)
State of female rats exposed to weightlessness during pregnancy: The thyroid gland.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 43-44.

Developmental Biology; Reproductive System; Endocrinology, Thyroid
Rats; Female; Pregnant
Space Flight; COSMOS-1514

P1046(23/89) Vacek A, Bartanichkova A, Rotkovska D (Czechoslovakia), Michurina TV, Domaratsskaya YeS, Serova LV (USSR)
State of female rats exposed to weightlessness during pregnancy: Hemopoietic stem cells.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 44-45.

Developmental Biology; Reproductive System; Hematology, Hemopoietic Stem Cells
Rats; Female; Pregnant
Space Flight; COSMOS-1514

P1047(23/89) Denisova LA, Lavrova YeA, Natochin YuV, Serova LV, Shakhmatova Yel. (USSR)
State of female rats exposed to weightlessness during pregnancy: Concentrations of fluids and electrolytes in tissues.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 45-47.

Developmental Biology; Reproductive System; Body Fluids, Fluid-Electrolyte Concentrations
Rats; Female; Pregnant
Space Flight; COSMOS-1514

P1048(23/89) Lyuderits P, Markvardt D, Vachtel Ye (GDR), Belakovskiy MS (USSR), Hecht K, Grosser I (GDR).
State of female rats exposed to weightlessness during pregnancy: Levels of electrolytes in the coats and tails of the animals.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 47-48.

Developmental Biology; Reproductive System; Body Fluids; Electrolytes; Coats, Tails
Rats; Female; Pregnant
Space Flight; COSMOS-1514

P1049(23/89) Ahlers I, Ahlersova E (Czechoslovakia). Serova L.V (USSR.), Toropila M (Czechoslovakia).
State of female rats exposed to weightlessness during pregnancy: Lipid Metabolism.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 48.-49.

Developmental Biology; Reproductive System; Metabolism, Lipid
Rats; Female; Pregnant
Space Flight; COSMOS-1514

P1050(23/89) Mishurova E, Kropachova K, Gabor Ya (Czechoslovakia).
State of female rats exposed to weightlessness during pregnancy: Concentration of nucleic acids and polydeoxyribonucleotides in tissues.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 49-51.

Developmental Biology; Reproductive System; Genetics, Nucleic Acids, Polydeoxyribonucleotides
Rats; Female; Pregnant
Space Flight; COSMOS-1514

P1051(23/89) Makeyeva VF, Kosmoslova GS, Yegorov IA (USSR).
State of female rats exposed to weightlessness during pregnancy: Biosynthesis of nucleic acids.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 51-53.

Developmental Biology; Reproductive System; Genetics; Nucleic Acids; Biosynthesis; Enzymology
Rats; Female; Pregnant
Space Flight; COSMOS-1514

P1052(23/89) Hemet Sh. (Czechoslovakia)
State of female rats exposed to weightlessness during pregnancy: Activity of certain enzymes in the liver.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 54

Developmental Biology; Reproductive System; Enzymology, Liver Enzymes
Rats; Female; Pregnant
Space Flight; .COSMOS-1514

P1053(23/89) Oshadal B, Peloukh V, Kolar F, Rikhter Z, Dragota Z (Czechoslovakia)
State of female rats exposed to weightlessness during pregnancy: State of the myocardium.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 54-55.
Developmental Biology; Reproductive System; Cardiovascular and Respiratory Systems, Myocardium
Rats; Female; Pregnant

P1054(23/89) Pospishilova I, Pospishil M (Czechoslovakia), Serova LV (USSR.)
State of female rats exposed to weightlessness during pregnancy: Collagen metabolism in the skin and bone tissue.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 55-56

Developmental Biology; Reproductive System; Metabolism; Collagen; Musculoskeletal System, Bone Tissue
Rats; Female; Pregnant
Space Flight; COSMOS-1514

P1055(23/89) Oganov VS, Bakulin AV, Il'yin YeA, Lebedev VI, Stupakov GP (USSR), Shapper D, Alexander K, Frey I, Vico L, Nogues C (France).
State of female rats exposed to weightlessness during pregnancy: Structure and mechanical properties of bone tissue.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 56-60.

Developmental Biology; Reproductive System; Musculoskeletal System, Bone Tissue
Rats; Female; Pregnant
Space Flight; COSMOS-1514

P1055(23/89) Oganov VS, Skuratova SA, Maylyan ES (USSR) Mounier Y, Lie K (France), Takacs O, Guba F, Siladi T, Ser A (Hungary).
State of female rats exposed to weightlessness during pregnancy: Physiological properties and metabolism of skeletal muscles.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 60-67

Developmental Biology; Reproductive System; Musculoskeletal System, Muscles; Metabolism
Rats; Female; Pregnant
Space Flight; COSMOS-1514. -1667

P1056(23/89) Baran'ska V, Kuyava M Lanchevski V, Pisarek V (Poland). Denisova LA (USSR)
State of female rats exposed to weightlessness during pregnancy: State of the ovaries.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages: 67-71.

Developmental Biology; Reproductive System; Ovaries
Rats; Female; Pregnant
Space Flight; COSMOS-1514

ISSUE 24:

PAPERS:

P1111(24/89)* Baykova OB.
Cytological study of spermatogenesis of rats exposed to hypergravity.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(3): 81-82 1989.
[13 references; 7 in English]

Reproductive System, Spermatogenesis, Cytology
Rats, Males
Hypergravity, Centrifuge

P1091(24/89) Serova, LV, Denisova AM, Pustynnikova AM.
Reproductive functions of animals spending a portion of the prenatal period under conditions of weightlessness.
In: Gazenko OG (editor).
Ontogenez mlekopitayushchikh v nevesomosti ***[Ontogeny of mammals in weightlessness.]***
Moscow: Nauka: 1988. Pages 135-139.

Reproductive System, Reproductive Function
Rats, Males, Females
Space Flight, COSMOS-1514, Prenatal Exposure

ISSUE 22

PAPERS:

P991(22/89)* Il'in YeA.
The COSMOS biosatellites: Some conclusions and prospects.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(6): 41-50; 1988.
(25 references; 6 in English)

Space Biology and Medicine, Life Support Systems, Adaptation, Body Fluids, Cardiovascular and Respiratory Systems, Endocrinology, Metabolism, Musculoskeletal System, Neurophysiology, Radiobiology
Review Article, Dogs, Primates, Rats
COSMOS Biosatellites, Equipment and Instrumentation, Artificial Gravity

P986(22/89) Grigor'yev AI, Yegorov AD.
Phenomenology and mechanisms underlying changes in the major functions of the human body in weightlessness.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
22(6): 4-17; 1988.
No references.

Space Biology and Medicine, Adaptation, Body Fluids, Cardiovascular and Respiratory Systems, Endocrinology, Hematology, Immunology, Metabolism, Musculoskeletal System, Neurophysiology
Humans, Cosmonauts, Review/Theoretical Article
Space Flight

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Special Feature: A Year in Weightlessness

Interview with Soviet cosmonauts V. Titov, and M. Manarov; interviewer: I. Nekhamkin; *Sovetskiy Soyuz,* No 2, 1989.

ISSUE 24:

BOOK REVIEW:

BR18(24/89) ***Review of: Aviation and Space Medicine in the Third Edition of: Bol'shaya Meditsinskaya Entsiklopedia;*** Большая Медицинская Энциклопедия [Large Medical Encyclopedia].
Moscow: Sovetskaya Entsiklopediya; 1974;-1988.
Reviewed in: Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(3): 94-96; 1989.
Reviewers: Gyurdzhian AA, Nekrasov PA.

KEY WORDS: Space Medicine; Aerospace Medicine; Space Biology; Ecological Medicine; Human Performance; Operational Medicine

ISSUE 25:

P1151(25/89)* Voloshin VG, Naryshkin IYe, Yuganov YeM.
Some principles for evaluating the quality of scientific research and the extent of implementation of their results.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(4): 94-96; 1989.
[4 references; none in English]

Space Biology and Medicine, Research and Implementation
Theoretical Article
Research Evaluation

P1152(25/89)* Il'in YeA, Kaplanskiy AS, Savina YeA.
Rat experiments on COSMOS biosatellites: Morphological and biochemical research.
Kosmicheskaya Biologiya i Aviakosmicheskaya Meditsina.
23(4): 4-9; 1989.
[63 references; 27 in English]

Space Biology and Medicine; Biochemistry, Morphology; Adaptation; Endocrinology; Hematology; Metabolism; Musculoskeletal System; Cardiovascular and Respiratory Systems; Gravitational Biology
Rats
Space Flight, COSMOS Biosatellites

MONOGRAPH:

M149 (25/89) Malkin VB, Kosmolinskiy FP, Kuznets Yel (editors).
Chelovek i Kosmos: Idei K.E. Tsiolkovskogo i ikh razvitiye v sovremennoy biomeditsine.Trudy XXII Chtenij, posvyashchennykh razrabotke nauchnogo naslediya i razvitiyu idej K.E. Tsiolkovskogo (Kaluga, 15-18 sentyabrya 1987). Человек и Космос Идеи К.Э. Циолковского и их Развитие в современноы биомедицине.Труды ХХИИ Чтений; посвященных разработке научного наследия и развитию идей К.Э. Циолковского (Калуга; 15-18 сентября1987)
Man and space: The Ideas of K.E. Tsiolkovskiy and their development in modern biomedicine. Works from the XXII lecture series devoted to development of the scientific heritage and development of the ideas of K.E. Tsiolkovskiy (Kaluga, 15-18 September, 1987)
Moscow: Soviet Academy of Sciences; 1988.
[72 pages; 6 tables; 2 figures]
Affiliation (monograph): The Commission on Development of the Scientific Heritage of K.E. Tsiolkovskiy, USSR Academy of Sciences; K.E. Tsiolkovskiy State Museum of the History of Cosmonautics

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15. Supplementary Notes

16. Abstract

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